

First Reading
ORDINANCE NO. _____

Storm Water Management Ordinance

**AN ORDINANCE PROMOTING THE HEALTH, SAFETY
AND GENERAL WELFARE OF THE CITIZENS OF _____, MINNESOTA
BY AMENDING THE ZONING ORDINANCE TO INCLUDE A SECTION
REQUIRING STORM WATER MANAGEMENT PRACTICES**

SECTION 1. FINDINGS.

The City of _____ hereby finds that uncontrolled and inadequately planned use of wetlands, woodlands, natural habitat areas, are subject to soil erosion and areas containing restrictive soils adversely affects the public health, safety and general welfare by impacting water quality and contributing to other environmental problems, creating nuisances, impairing other beneficial uses of environmental resources and hindering the ability of the City of _____ to provide adequate flood control and other community services. In addition, extraordinary public expenditures may be required for the protection of persons and property in such areas which may be affected by unplanned land usage.

SECTION 2 PURPOSE.

The purpose of the ordinance is to promote, preserve and enhance the natural resources within the City of _____ and protect them from adverse effects occasioned by poorly sited development or incompatible activities by regulating land disturbing or development activities that would have an adverse and potentially irreversible impact on water quality and unique and fragile environmentally sensitive land; by minimizing conflicts and encouraging compatibility between land disturbing and development activities and water quality and environmentally sensitive lands; and by requiring detailed review standards and procedures for land disturbing or development activities proposed for such areas, thereby achieving a balance between urban growth and development and protection of water quality and natural areas.

SECTION 3. DEFINITIONS.

For the purpose of this ordinance, the following terms, phrases, words and their derivatives shall have the meaning stated below. When not inconsistent with the context, words used in the present tense include the future tense, words in the plural number includes the singular number, and words in the singular number include the plural number. The word “shall” is always mandatory and not merely directive.

- A. Applicant. Any person who wishes to obtain a building permit, zoning or subdivision approval.
- B. Control measure. A practice or combination of practices to control erosion and attendant pollution.
- C. Detention facility. A permanent natural or man-made structure, including wetlands, for the temporary storage of run off which contains a permanent pool of water.
- D. Flood fringe. The portion of the floodplain outside of the floodway.
- E. Floodplain. The areas adjoining a watercourse or water basin that have been or may be covered by a regional flood.
- F. Floodway. The channel of the watercourse, the bed of water basins, and those portions of the adjoining floodplains that are reasonably required to carry and discharge floodwater and provide water storage during a regional flood.
- G. Hydric soils. Soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part.
- H. Hydrophytic vegetation. Macrophytic plant life growing in water, soil or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content.
- I. Land disturbing or development activities. any change of the land surface including removing vegetative cover, excavating, filling, grading and the construction of any structure.
- J. Person. Any individual, firm, corporation, partnership, franchise, association or governmental entity.
- K. Public waters. Waters of the state as defined in Minnesota Statutes, Section 103G.00S, subdivision 15.
- L. Regional flood. A flood that is representative of large floods known to have occurred generally in the state and reasonably characteristic of what can be expected to occur on an average frequency in the magnitude of a 100-year recurrence interval.
- M. Retention facility. A permanent natural or man made structure that provides for the storage of storm water runoff by means of a permanent pool of water.
- N. Sediment. Solid matter carried by water, sewage, or other liquids.
- O. Structure. Anything manufactured, constructed or erected which is normally attached to or positioned on land, including portable structures, earthen structures, roads, parking lots, and paved storage areas.

P. Wetlands. Lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this definition, wetlands must have the following three attributes:

1. Have a predominance of Hydric soils;
2. Are inundated or saturated by surface or ground water at a frequency and duration sufficient to support a prevalence of Hydrophytic vegetation typically adapted for life in saturated soil conditions; and
3. Under normal circumstances support a prevalence of such vegetation.

SECTION 4 SCOPE AND EFFECT.

4.1 Applicability.

Every applicant for a building permit, subdivision approval, or a permit to allow land disturbing activities must submit a storm water management plan to the Zoning Administrator. No building permit, subdivision approval, or permit to allow land disturbing activities shall be issued until approval of the storm water management plan or a waiver of the approval requirement has been obtained in strict conformance with the provisions of this ordinance. The provisions of Section 8 of this ordinance apply to all land, public or private, within the City of _____.

4.2 Exemptions.

The provisions of this ordinance do not apply to:

1. Any part of a subdivision if a plat for the subdivision has been approved by the City Council on or before the effective date of this ordinance;
2. Any land disturbing activity for which plans have been approved by the Valley Branch watershed District within six months prior to the effective date of this ordinance;
3. A lot for which a building permit has been approved on or before the effective date of this ordinance;
4. Installation of fence, sign, telephone, and electric poles and other kinds of posts or poles; or
5. Emergency work to protect life, limb or property

4.3 Waiver.

The City Council, upon recommendation of the Planning Commission, may waive any requirement of this ordinance upon making a finding that compliance with the requirement will not adversely affect the standards and requirements set forth in Section 6. The City Council may require as a condition of the waiver such dedication or construction, or agreement to dedicate or construct as may be necessary to adequately meet said standards and requirements.

SECTION 5 STORM WATER MANAGEMENT PLAN APPROVAL PROCEDURES.

5.1 Application.

A written application for storm water management plan approval, along with the proposed storm water management plan, shall be filed with the Zoning Administrator and shall include a statement indicating the grounds upon which the approval is requested, that the proposed use permitted by right or as an exception in the underlying zoning district, and adequate evidence showing that the proposed use will conform to the standards set forth in this ordinance.

Two sets of clearly legible blue or black lined copies of drawings and required information shall be submitted to the Zoning Administrator and shall be accompanied by a receipt from the City Clerk evidencing the payment of all required fees for processing and approval as set forth in Section 6.5 and a bond when required by Section 6.4. in the amount to be calculated in accordance with that section. Drawings shall be prepared to a scale appropriate to the site of the project and suitable for the review to be performed. At a minimum, the scale shall be 1 inch equals 100 feet.

5.2 Storm water management plan.

At a minimum, the storm water management plan shall contain the following information:

1. Existing site map. A map of existing site conditions showing the site and immediately adjacent areas, including:
 - a. The name and address of the applicant, the section, township and range, north point, date and scale of drawing and number of sheets;
 - b. Location of the tract by an insert map at a scale sufficient to clearly identify the location of the property and giving such information as the names and numbers of adjoining roads, railroads, utilities, subdivision, towns and districts or other landmarks;
 - c. Existing topography with a contour interval appropriate to the topography of the land.
 - d. A delineation of all streams, rivers, public waters and wetlands located on and immediately adjacent to the site, including depth of water, a description of vegetation which may be found in the water, a statement of general water quality and any classification given to the water body or wetland by the Minnesota Department of

Natural Resources, the Minnesota Pollution Control Agency, and/or the United States Army Corps of Engineers;

- e. Location and dimensions of existing storm water drainage systems and natural drainage patterns on and immediately adjacent to the site delineating in which direction and at what rate storm water is conveyed from the site, identifying the receiving stream, river, public water, or wetland, and setting forth those areas of the unaltered site where storm water collects;
 - f. A description of the soils of the site, including a map indicating soil types of areas to be disturbed as well as a soil report containing information on the suitability of the soils for the type of development proposed and for the type of sewage disposal proposed and describing any remedial steps to be taken by the developer to render the soils suitable;
 - g. Vegetative cover and clearly delineating any vegetation proposed for removal; and
 - h. 100 year floodplain, flood fringes and floodways.
2. Site construction plan. A site construction plan including;
- a. Locations and dimensions of all proposed land disturbing activities;
 - b. Locations and dimensions of all temporary soil or dirt stockpiles;
 - c. Locations and dimensions of all construction site erosion control measures necessary to meet the requirements of this ordinance;
 - d. Schedule of anticipated starting and completion date of each land disturbing activity including the installation of construction site erosion control measures needed to meet the requirements of this ordinance; and
 - e. Provisions for maintenance of the construction site erosion control measures during construction.

3. Plan of final site conditions. A plan of final site conditions on the same scale as the existing site map showing the site changes including;
- a. Finished grading shown at contours at the same interval as provided above or as required to clearly indicate the relationship of proposed changes to existing topography and remaining features;
 - b. A landscape plan, drawn to an appropriate scale, including dimensions and distances and the location, type, size and description of all proposed landscape materials which will be added to the site as part of the development;
 - c. A drainage plan of the developed site delineating in which direction and at what rate storm water will be conveyed from the site and setting forth the areas of the site where storm water will be allowed to collect;
 - d. The proposed size, alignments and intended use of any structures to be erected on the site;
 - e. A clear delineation and tabulation of all areas which shall be paved or surfaced, including a description of the surfacing material to be used; and
 - f. Any other information pertinent to the particular project which in the opinion of the applicant is necessary for the review of the project.

SECTION 6 PLAN REVIEW PROCEDURES.

6.1 Process.

Storm water management plans meeting the requirements of Section 5 shall be submitted by the Zoning Administrator to the Planning Commission for review in accordance with the standards of Section 7. The Commission shall recommend approval, recommend approval with conditions or recommend denial of the storm water management plan. Following Planning Commission action, the storm water management plan shall be submitted to the City Council at its next available meeting. City Council action on the storm water management plan must be accomplished within 120 days following the date the application for approval is filed with the Zoning Administrator.

6.2 Duration.

Approval of a plan submitted under the provisions of this ordinance shall expire one year after the date of approval unless construction has commenced in accordance with the plan. However, if prior to the expiration of the approval, the applicant makes a written request to the Zoning Administrator for an extension of time to commence construction setting forth the reason for the requested extension, the planning commission may grant one extension of not greater than one single year. Receipt of any request for an extension shall be acknowledged by the Zoning Administrator within 15 days. The Zoning Administrator shall make a decision on the extension within 30 days of receipt. Any plan may be revised in the same manner as originally approved.

6.3 Conditions.

A storm water management plan may be approved subject to compliance with conditions reasonable and necessary to insure that the requirements contained in the ordinance are met. Such conditions may, among other matters, limit the size, kind or character of the proposed development, require replacement of vegetation, establish required monitoring procedures, stage the work over time, require alteration of the site design to insure buffering, and require the conveyance to the City or other public entity of certain lands or interests therein.

6.4 Performance bond.

Prior to approval of any storm water management plan, the applicant shall submit an agreement to construct such required physical improvements, to dedicated property or easements, or to comply with such conditions as may have been agreed to. Such agreement shall be accompanied by a bond to cover the amount of the established cost of complying with the agreement. The agreement and bond shall guarantee completion and compliance with conditions within a specific time, which time may be extended in accordance with Section 6.2.

The adequacy, conditions and acceptability of any agreement and bond shall be determined by the City Council or any official of the City as may be designated by resolution of the City Council.

6.5 Fees.

All applications for storm water management plan approval shall be accompanied by a process and approval fee as set by Council Fees Resolution.

SECTION 7. APPROVAL STANDARDS.

7.1 Storm Water Management Plans shall be reviewed and approved by the City Council.

7.2 Site dewatering.

Water pumped from the site shall be treated by temporary sedimentation basins, grit chambers, sand filters, upflow chambers, hydrocyclones, swirl concentrators or other appropriate controls as appropriate. Water may not be discharged in a manner that causes erosion or flooding of the site or receiving channels or a wetland.

7.3 Waste and material disposal.

All waste and unused building materials (including garbage debris, cleaning wastes, wastewater, toxic materials or hazardous materials) shall be properly disposed of off-site and not allowed to be carried by runoff into a receiving channel or storage sewer system.

7.4 Tracking.

Each site shall have graveled roads, access drives and parking areas of sufficient width and length to prevent sediment from being tracked onto public or private roadways. Any sediment reaching a public or private road shall be removed by street cleaning (or flushing) before the end of each workday.

7.5 Drain inlet protection.

All storm drain inlets shall be protected during construction until control measures are in place with a straw bale, silt fence or equivalent barrier meeting accepted design criteria, standards and specifications contained in the MPCA publication "Protecting Water Quality in Urban Areas".

7.6 Site erosion control.

The following criteria (1 through 4) apply only to construction activities that result in runoff leaving the site.

- A. Channelized runoff from adjacent areas passing through the site shall be diverted around disturbed areas, if practical. Diverted runoff shall be conveyed in a manner that will not erode the conveyance and receiving channels.
- B. All activities on the site shall be conducted in a logical sequence to minimize the area of bare soil exposed at any one time.
- C. Runoff from the entire disturbed area on the site shall be controlled by meeting either subsections a. and b. or a. and c.
 - 1. All disturbed ground left inactive for fourteen or more days shall be stabilized by seeding or sodding (only available prior to September 15) or by mulching or covering or other equivalent control measure.

2. For sites with more than ten (10) acres disturbed at one time, or if a channel originates in the disturbed area, one or more temporary or permanent sedimentation basin shall be constructed. Each sedimentation basin shall have a surface area of at least one percent of the area draining to the basin and at least three feet of depth and constructed in accordance with accepted design specifications. Sediment shall be removed to maintain a depth of three feet. The basin discharge rate shall also be sufficiently low as to not cause erosion along the discharge channel or the receiving water.
 3. For sites with less than ten (10) acres disturbed at one time, silt fences, straw bales or equivalent control measures shall be placed along all sidesteps and downsides of the site. If a channel or area of concentrated runoff passes through the site, silt fences shall be placed along the channel edges to reduce sediment reaching the channel. The use of silt fences, straw bales or equivalent control measures must include a maintenance and inspection schedule.
- D. Any soil or dirt storage piles containing more than ten (10) cubic yards of material should not be located with a downslope drainage length of less than twenty-five (25) feet from the toe of the pile to a roadway or drainage channel. If remaining for more than seven days, they shall be stabilized by mulching vegetative cover, tarps or other means. Erosion from piles which will be in existence for less than seven days shall be controlled by placing straw bales or silt fence barriers around the pile. In-street utility repair or construction soil or dirt storage piles located closer than twenty-five (25) feet of a roadway or drainage channel must be covered with tarps or suitable alternative control, if exposed for more than seven (7) days, and the stormdrain inlets must be protected with straw bale or other appropriate filtering barriers.

7.7 Storm water management criteria for permanent facilities.

- A. An applicant shall give consideration to participating in the City's Storm Water Management Program to construct regional storm water management facilities. If a regional facility is not available or feasible, the applicant shall install or construct, on or for the proposed land disturbing development activity, all storm water management facilities necessary to manage increased runoff so that the two-year, ten-year and 100-year storm peak discharge rate existing before the proposed development shall not be increased and accelerate channel erosion will not occur as a result of the proposed land disturbing or development activity.

- B. The applicant shall give consideration to reducing the need for storm water management facilities by incorporating the use of natural topography and land cover such as wetlands, ponds, natural swales and depressions as they exist before development to the degree that they can accommodate the additional flow of water without compromising the integrity or quality of the wetland or pond.
- C. The following storm water management practices shall be investigated in developing a storm water management plan in the following descending order of preference:
 - a. Natural infiltration of precipitation on-site;
 - b. Flow attenuation by use of open vegetated swales and natural depressions;
 - c. Regional storm water management facilities; and
 - d. On-site storm water management facilities.
- D. A combination of successive practices may be used to achieve the applicable minimum control requirements specified in subsection (1) above. Justification shall be provided by the applicant for the method selected.

7.8 Design Standards.

Storm water management facilities constructed in the City of _____ shall be designed according to the most current technology and as provided in the City's Storm Water Management Plan. At a minimum, the following design factors shall be used:

- A. A permanent pool volume equal to or greater than the runoff from a 1.8-inch, 24-hour storm event for the tributary drainage area;
- B. An average permanent pool depth of four to ten feet;
- C. A permanent pool length-to-width ratio of 3:1 or greater;
- D. A minimum protective shelf extending ten feet into the permanent pool with a slope of 10:1, beyond which slopes should not exceed 3:1;
- 5. A protective buffer strip of vegetation surrounding the permanent pool at a minimum width of one rod (16.5 feet)
- 6. At a minimum, storm water detention facilities for new development must be sufficient to limit peak flows from the service area to those that existed before the development for the two (2), ten (10), and one hundred (100) year storm event. Target flow rates for the City drainage system are provided in the Storm Water Management Plan. All calculations and hydrologic

models/information used in determining peak flows shall be submitted along with the storm water management plan to the City for review

7.9 Wetlands.

Wetlands must not be drained or filled, wholly or partially, unless replaced by restoring or creating wetland areas of at least equal public value under an approved replacement plan as required by the Minnesota Wetland Conservation Act.

7.10 Steep Slopes.

No land disturbing or development activities shall be allowed on slopes of 18 per cent or more.

7.11 Models/methodologies/computations.

Hydrologic models and design methodologies used for the determination of runoff and analysis of storm water management structures shall be approved by the City Engineer. Plans, specifications and computations for storm water management facilities submitted for review shall be sealed and signed by a registered professional engineer. All computations shall appear on the plans submitted for review, unless otherwise approved by the City Engineer.

7.12 Easements.

If a storm water management plan involves direction of some or all runoff off of the site, it shall be the responsibility of the applicant to obtain from adjacent property owners any necessary easements or other property interests concerning flowage of water.

SECTION 8. LAWN FERTILIZER REGULATIONS.

8.1 Use of impervious surfaces.

No person shall apply fertilizer to or deposit grass clippings, leaves or other vegetative materials on impervious surfaces, or within storm water drainage systems, natural drainage ways, or buffer zones.

8.2 Unimproved land areas.

Except for driveways, sidewalks, patios, areas occupied by structures or areas which have been improved by landscaping, all areas shall be covered by plants or vegetative growth.

8.3 Buffer zone.

Fertilizer applications shall not be made within one rod (16.5 feet) of any wetland or water resource.

SECTION 9 PENALTY.

Any person, firm or corporation violating any provision of this ordinance shall be fined not less than five dollars nor more than five hundred dollars for each offense, and a separate offense shall be deemed committed on each day during or on which a violation occurs or continues.

SECTION 10. OTHER CONTROLS.

In the event of any conflict between the provisions of an erosion control or shoreland protection ordinance adopted by the City Council, the more restrictive standard prevails.

SECTION 11. SEVERABILITY.

The provisions of this ordinance are severable. If any provision of this ordinance or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of this ordinance which can be given effect without the invalid provision or application.

SECTION 12. EFFECTIVE DATE.

This ordinance shall become effective three days following its publication in the official newspaper of the City.

Adopted by the City Council of the City of _____, _____ County, Minnesota
this ____ day of _____, 1999.

ATTEST:

Mayor

Moved by:
Seconded by: